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ABSTRACT

A common belief among teacher educators is that different academic backgrounds may influence student entry level and rates of matriculation through the curriculum. This report describes a study using a "pretest/posttest" method to evaluate student academic progression, and to determine variance in scores between two groups of graduate students (n=32) of dissimilar undergraduate academic background: those with undergraduate Liberal Arts and Sciences degrees (n=22), and those with undergraduate Education degrees (n=10). The purposes of the study were: (1) to determine strengths and weaknesses regarding academic gain in three areas of course content--accountability, curriculum, and methodology--by students enrolled in an advanced graduate methods class, and (2) to determine levels of variance in pretest/posttest scores of these students grouped according to EDND (non-degree or alternative post-baccalaureate certification) and MADS/MCSE (traditional) graduate classifications. Analysis indicated that 82 percent of the EDND students had one or more years of teaching experience; 91 percent had previously taken one or more graduate or undergraduate methods courses while working toward certification. Pretest questions indicated no significant variance between the two groups in any of the three areas of course content. Responses of the two groups to posttest questions again indicated no significant levels of variance. There was, however, a significant gain in acquisition of course content in the three areas. The EDND students had an average 30 percent reduction in the number of incorrect responses, and the MADS/MCSE students had an average 24 percent reduction in incorrect responses. (ND)

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ED 388 643

VARIANCE IN PRETEST/POSTTEST SCORES OF DIVERSIFIED POST-BACCALAUREATES ENROLLED IN AN ADVANCED GRADUATE METHODS COURSE

A Paper

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During the past five years, the graduate methods classes in education at Nicholls State University have changed considerably with regard to an increase in the enrollment of "non-education degree post-baccalaureate graduate students" (EDND) working toward certification. This increase has been augmented by the implementation of "alternative certification" programs in State colleges and universities. Alternative certification programs differ from the traditional graduate education curricula (MADS and MCSE) in that courses in methodology at both the graduate and undergraduate levels are required.

All fifteen states of the Southern Regional Education Board presently have alternative certification programs (Cornett, 1992). During the 1993 Spring Semester, EDND graduate students comprised 43% of the total graduate education enrollment at this University. EDND graduate students currently comprise 69% of the total enrollment in the "Advanced Methods Class in Teaching Secondary School Subjects" (EDCI 586).

Thirty-two graduate students were enrolled in "Advanced Methods in Teaching Secondary School Subjects" (EDCI 586) during the 1993 Fall Semester. Thirty-one percent (10) had completed undergraduate degrees in education; sixty-nine percent (22) had earned baccalaureate degrees in Liberal Arts & Sciences. All of the graduate students were working toward a master's degree in education. The twenty-two graduates in Arts & Sciences were concurrently enrolled in the Alternative Certification Program (EDND), a non-degree post-baccalaureate graduate classification. A similar profile was determined in a related study involving

graduate students enrolled in an advanced graduate methods class during the 1991 Fall Semester (Gee, 1992).

A common belief among teacher educators is that different undergraduate academic backgrounds may be a factor resulting in a variation of student entry levels and rates of matriculation through the curriculum. According to Orlich, "formative evaluation" is an effective means of determining student acquisition of cognitive content (Orlich, et. al., 1990). A "pretest-posttest" method was used in this study as a means to formatively evaluate student academic progression, and to determine variance in scores between two groups of graduate students of dissimilar undergraduate academic backgrounds; graduate students with undergraduate Arts and Sciences degrees, and graduate students with undergraduate Education degrees.

A similar study in California reported there appeared to be no difference in performance in the classroom by beginning teachers with degrees in education, and intern teachers alternatively certified, at the end of their first year of teaching (Young, et. al., 1992). Additional research supports the premise that teacher education should be a post-baccalaureate program (Holmes Group, 1986).

The purposes of this study were (1) to determine strengths and weaknesses regarding academic gain in three areas of course content by graduate students enrolled in an advanced graduate methods class, and (2) to determine levels of variance in pretest/posttest scores of these students grouped according to EDND and MADS/MCSE graduate classifications.

METHOD

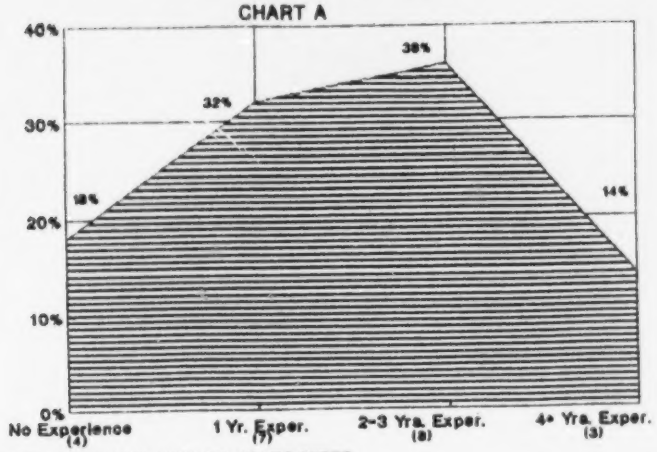
A pretest was constructed containing thirty-two multiple-choice questions relevant to teaching secondary school subjects. The questions were grouped according to three specific units which comprise the syllabus of the course; "Accountability", "Curriculum", and "Methodology". An item analysis of test questions was used to ensure reliability between questions in the evaluation and information presented in class. In order to establish an acceptable degree of validity, this instrument was piloted with two advanced graduate methods classes during the 1991 and 1992 Fall semesters. This same instrument was used for the pretest and posttest to provide data used to determine levels of variance between scores. Data were compiled according to percentages of responses of the two groups of graduate students (EDND and MADS/MCSE) for each question, and reported according to the three areas of course content (Accountability, Curriculum, and Methodology). A chi-square was computed to determine levels of significance between variances in response.

RESULTS

A profile of the EDND students was determined regarding (1) teaching experience, (2) attainment of passing scores on components of the National Teacher Examination, and (3) prior courses in education taken at the undergraduate and graduate levels. This profile revealed 82% (18) of the EDND graduate students as having one or more years of teaching experience. (Chart A)

EDND GRADUATE STUDENTS (22)
YEARS OF TEACHING EXPERIENCE

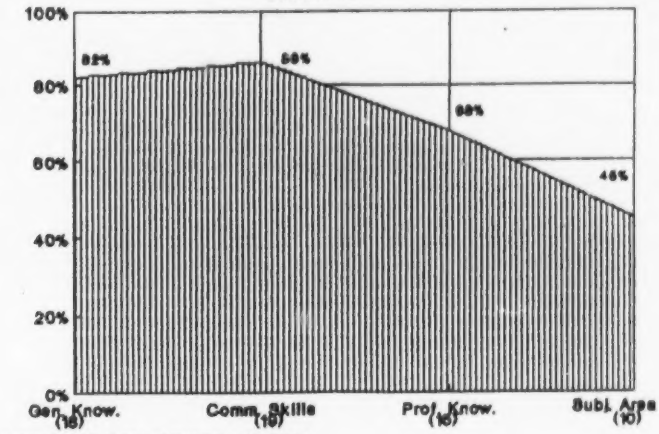
CHART A



18 STUDENTS (82%) WITH 1 PLUS YRS EXPER.

In addition, 45% (10) of the EDND graduate students had attained passing scores on three components of the National Teacher Examination (NTE) "Core Battery", and a specified "Subject Area" test. (Chart B)

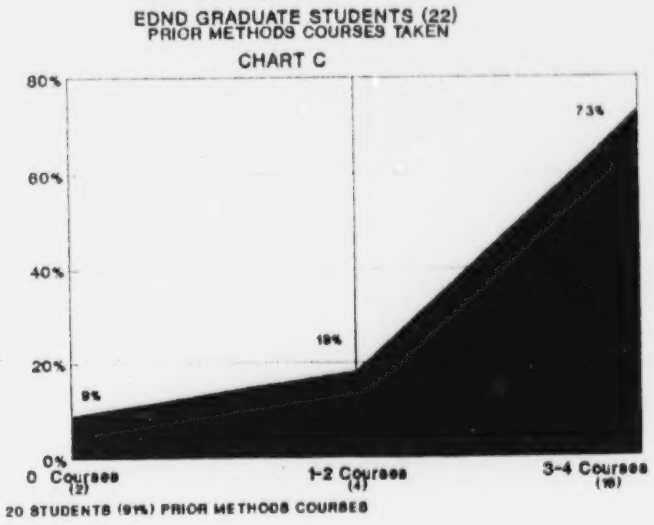
EDND GRADUATE STUDENTS (22)
SCORE ATTAINMENT - NTE COMPONENTS
CHART B



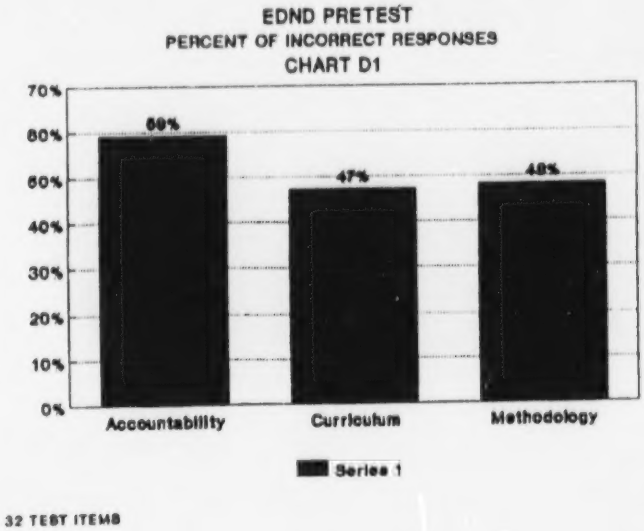
10 STUDENTS (45%) ATTAINED 4 SCORES

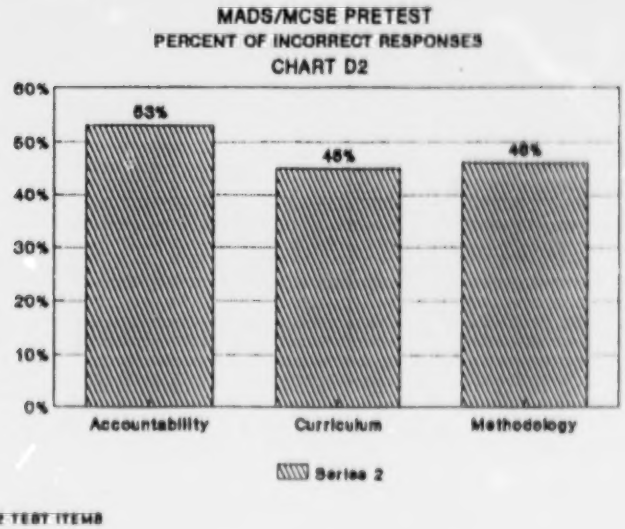
This profile also revealed that of the 22 EDND graduate students, 91% (20) had previously taken one or more graduate or

undergraduate methods courses, while working toward certification, prior to the 1993 Academic Fall Semester. (Chart C)



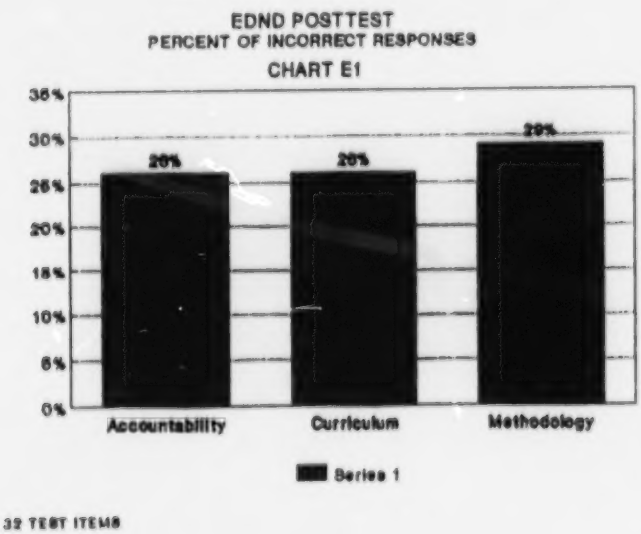
Responses of the EDND (22) and MADS/MCSE (10) graduate students to pretest questions indicated no significant variance at the .05 level between the two groups in any of the three areas of course content. Chi-square was used to determine levels of significance in variance. (Charts D1 and D2)

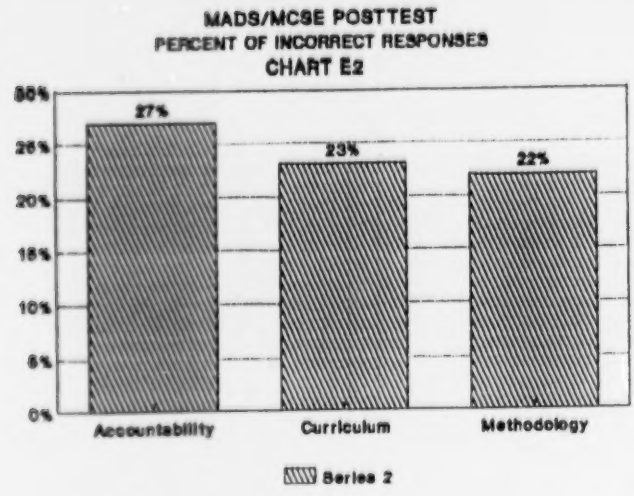




Two graduate students had dropped from the class enrollment by the end of the semester, leaving the EDND group of graduate students to 20 in number. The posttest was administered at the end of the semester without prior notification.

Responses of the EDND (20) and MADS/MCSE (10) graduate students to posttest questions again indicated no significant levels of variance at the .05 level between the two groups in any of the three areas of course content. (Charts E1 and E2)





A gain in acquisition of course content between pretest and posttest scores in the three areas , "Accountability", "Curriculum", and "Methodology" appeared to be significant. The EDND graduate students had an average 30% reduction in the number of incorrect responses, and the MADS/MCSE graduate students had an average 24% reduction in incorrect responses.

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